

REMARKS/ARGUMENTS

The Office Action mailed January 21, 2005 has been reviewed and carefully considered. Claims 1-47 are pending in this application, with claims 1 and 11 being the only independent claims. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

In the Office Action mailed January 21, 2005, claims 1-5, 10, 12, 14-17, 32-35, 40, and 43 stand rejected under 35 U.S.C. §103 as unpatentable over applicant's admitted prior art (APA) in view of U.S. Patent No. 6,263,207 (Kito) and U.S. Patent No. 6,038,452 (Strawczynski).

Claims 6, 11, 19-23, 36, 44, and 47 stand rejected under 35 U.S.C. §103 as unpatentable over APA, Kito and Strawczynski and further in view of U.S. Patent No. 5,737,365 (Gilbert).

Claims 7, 8, 37, and 38 stand rejected under 35 U.S.C. §103 as unpatentable over APA, Kito, Strawczynski, and Gilbert and further in view of U.S. Patent No. 6,324,170 (McClellon).

Claims 9, 13, 18, 24-31, and 39 stand rejected under 35 U.S.C. §103 as unpatentable over APA, Kito and Strawczynski and further in view of U.S. Patent No. 6,654,359 (LaPorta).

Claims 41, 42, 45, and 46 stand rejected under 35 U.S.C. §103 as unpatentable over APA, Kito and Strawczynski and further in view of U.S. Patent No. 6,771,609 (Gudat).

Before discussing the cited prior art and the Examiner's rejections of the claims in view of that art, a brief summary of the present invention is appropriate. The present invention relates to a system and a method for routing communications in a network. According to the present invention, a telecommunication network includes base stations 20-23, wherein base stations 20-21 are linked to a base station controller (BSC) 24 by communication links 26, 27 respectively,

and base stations 22-23 are linked to a BSC 25 by communication links 28, 29, respectively (page 6, lines 1-5; and Fig. 2 of the specification). The BSCs 24, 25 are connected to a network controller 30 by communication links 32, 33, respectively (page 6, lines 9-10).

The network controller 30 is linked to a public telephone network 34, a cellular telephone network 36, and a data network 38 to allow call to terminals 35, 37, 39 (page 6, lines 12-19). A mobile terminal 40 can thus communicate with any of the terminal 35, 37, 39 (page 6, lines 20-22). As mobile terminal 40 moves, a need may arise for handover from one base station to another (page 7, lines 1-3). According to the present invention, the decision on when to handover takes into account the quality of segments other than the radio link (see page 7, lines 13-21, and page 8, lines 1-2). The quality may be one or more of an error rate, re-transmission rate, loss rate, delay or jitter of any of bits, frames, packets or other data units (page 4, lines 13-15).

Independent claim 1 recites "a routing unit for determining whether the first terminal unit is to communicate with the second terminal unit via the first or second base stations in dependence on factors that include quality of at least part of the first and second routes".

APA discloses a telecommunication network having base stations 4, 5, 6 which communicate with a mobile station 9. The base stations 4, 5, 6 are connected to a base station controller 7 which is connected to a mobile switching center 8 of a communication network. As indicated in the Office Action, the APA does not disclose a routing unit for determining whether a first terminal is to communicate with the second terminal via the first or second base station dependent on factors including quality of at least part of the first and second routes, as recited in independent claim 1.

Kito discloses a mobile radio communication system which sets a radio circuit efficiently without deteriorating communication quality even when congestion of communication

channels occurs (see abstract of Kito). Kito discloses that when a new cell is originated at a base station, the mobile switching center 8 checks the congestion level at the base station (see col. 7, lines 7-10). If congestion is determined in the forward link, then the mobile switching center selects a mobile station connected to the base station with the lowest forward reception level and determines whether that mobile station can communicate with any other base stations (col. 7, lines 20-34). The mobile switching center then selects the base station which the mobile station receives with the highest forward reception level (col. 7, lines 34-40) and switched the forward link. The same process is similarly performed for the reverse link (col. 9, lines 12-22).

While the congestion level of a base station and the reception level of a base station may have an effect on the quality of service of a communication channel, the congestion level and reception level are not direct measurements of quality. Kito relates to adding a new mobile station in a network and the object is therefore to avoid affecting the quality of service of existing connections. To avoid affecting the quality of service of existing connections, Kito verifies whether the new connection would exceed allowed congestion levels and if so takes the above measures. Since Kito relates to changing a base station based on traffic congestion before the quality of service is effected, Kito fails to teach or suggest monitoring the quality of service level directly. Therefore, Kito fails to teach or suggest "a routing unit for determining whether the first terminal unit is to communicate with the second terminal unit via the first or second base stations in dependence on factors that include quality of at least part of the first and second routes", as expressly recited in independent claim 1.

Strawczynski fails to teach or suggest what Kito lacks. Strawczynski relates to a communication network and method to enable better control of quality of service of signals in the communication network. To ensure a quality of service, Strawczynski teaches that a control system

alters at least one parameter of the network that influences a quality of service (see col. 3, lines 4-10) of Strawczynski). The quality of service to be altered may be the frame error rate or signal-to-noise ratio (col. 3, lines 16-21). The parameter to be controlled to improve the quality of service is the power output of transmitters (col. 3, lines 55-60). Accordingly, Strawczynski discloses changing parameters of a network to improve the quality of service instead of changing a route in dependence on the quality of service. Accordingly, APA and Kito in view of Strawczynski fails to teach or suggest "a routing unit for determining whether the first terminal unit is to communicate with the second terminal unit via the first or second base stations in dependence on factors that include quality of at least part of the first and second routes", as expressly recited in independent claim 1.

Independent claim 11 recites "estimating the quality of at least part of the first and second routes, wherein the at least a part of the first and second routes is at least one of the other non-radio link segments" and "determining whether the first terminal unit is to communicate with the second terminal unit via the first or second base stations independence on factors that include the quality".

As described above, APA, Kito, and Strawczynski alone and in combination, fail to teach or suggest "determining whether the first terminal unit is to communicate with the second terminal unit via the first or second base stations independence on factors that include the quality", as recited in independent claim 11.

Gilbert fails to teach what APA, Kito and Strawczynski lack. Gilbert discloses a method and apparatus for determining a received signal quality estimate of a trellis code modulated signal. However, the ultimate goal of Gilbert is to use the estimated quality for selection of an encoding scheme best adapted to ongoing RF channel conditions (see col. 10, lines 49-51 of Gilbert). Since Gilbert discloses using the estimated quality for determining an

encoding scheme, Gilbert fails to teach or suggest "determining whether the first terminal unit is to communicate with the second terminal unit via the first or second base stations independence on factors that include the quality", as recited in independent claim 11.

Dependent claims 2-10 and 12-47, each being dependent on one of independent claims 1 and 11, are deemed allowable for the same reasons expressed above with respect to independent claims 1 and 11.

The application is now deemed to be in condition for allowance and notice to that effect is solicited.

It is believed that no fees or charges are required at this time in connection with the present application; however, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
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